REMARKS

This Preliminary Amendment accompanies a divisional patent application of co-pending United States Patent Application Serial No. 09/480,837, filed January 10, 2000, of the same title. This Preliminary Amendment cancels original claims 1-16, without prejudice to further prosecution, and adds new claims 17-41. The new claims are directed to an ultra wide band network that employs a medium access control protocol that comprises a time division multiple access frame having a plurality of variable-length data slots, and a timestamp slot. An ultra wide band network, as claimed, is disclosed and supported in the third paragraph on page 12 of co-pending United States Patent Application Serial No. 09/393,121, filed September 10, 1999, titled: MEDIUM ACCESS CONTROL PROTOCOL FOR CENTRALIZED WIRELESS NETWORK COMMUNICATION MANAGEMENT, which is incorporated in its entirety in patent application serial no. 09/480,837.

Ultra wide band (UWB) communication technology employs pulses of electromagnetic energy that are emitted at nanosecond or picosecond intervals (generally tens of picoseconds to a few nanoseconds in duration). For this reason, ultra wide band is often called "impulse radio." That is, the UWB pulses may be transmitted without modulation onto a sine wave carrier frequency, in contrast with conventional radio frequency technology. Ultra-wideband generally requires neither an assigned frequency nor a power amplifier.

For example, conventional radio frequency technology employs continuous sine waves that are transmitted with data embedded in the modulation of the sine waves' amplitude or frequency. Thus, a conventional cellular phone must operate at a particular frequency band of a particular width in the total frequency spectrum. Specifically, in the United States, the Federal Communications Commission has allocated cellular phone communications in the 800 to 900

MHz band. Cellular phone operators use 25 MHz of the allocated band to transmit cellular phone signals, and another 25 MHz of the allocated band to receive cellular phone signals.

In contrast, a UWB pulse may have a 1.8 GHz center frequency, with a frequency spread of approximately 3.6 GHz. A UWB pulse is a single electromagnetic burst of energy. That is, a UWB pulse can be either a single positive burst of electromagnetic energy, or a single negative burst of electromagnetic energy. Generally, the narrower the UWB pulse in time, the broader the spread of its frequency spectrum. This is because bandwidth is inversely proportional to the time duration of the pulse. A 600 picosecond UWB pulse can have about a 1.8 GHz center frequency, with a frequency spread of approximately 4.0 GHz. And a 300 picosecond UWB pulse can have about a 3 GHz center frequency, with a frequency spread of approximately 8 GHz. Thus, UWB pulses generally do not operate within a specific frequency. And because UWB pulses are spread across an extremely wide frequency range or bandwidth, UWB communication systems allow communications at very high data rates, such as 100 megabits per second or greater.

Conclusion

Applicants herewith submit this Preliminary Amendment, and request examination of new claims 17-41. Should the Examiner have any questions, the Examiner is invited to telephone the undersigned.

Respectfully submitted,

7.18.03
Date

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EXHIBIT B

MAIL STOP Patent Application
Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Ser. Reg. No.: TBA
Our File No.: 30287-93
Title: AN APPARATUS AND METHOD...
Applicant(s): GEHRING ET AL.
Mailing Date: 07/18/03

The papers indicated below were received in the U.S. Patent & Trademark Office on the date stamped hereon:

- 1 Patent application, including ABSTRACT, 47 pages of Specifications and Claims and 5 sheets of Drawings
- 1 Combined Declaration and Power of Attorney
- — Power of Attorney
- — Response to Office Action
- 1 Check No. 142565 for $502.00
- 1 Information Disclosure Statement
- — Maintenance Fee Transmittal
- 1 IDS with Form PTO 1449 with 9 cited refs.
- 1 Transmittal Letter FOR Utility Application
- 1 Assignment with Form PTO 1595, 9 pages
- — Priority Document
- — Petition for Extension of Time
- — Amendment/Response
- — Amendment After Final Rejection
- 1 Preliminary ~~Transmittal~~ AMENDMENT
- — Notice of Appeal
- — Issue Fee Transmittal
- 1 CERTIFICATE OF MAILING EXPRESS MAIL NO. EV292297614US
- 1 Other: FEE TRANSMITTAL

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Attention:

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